

ABSTRACT OF THE DISCLOSURE

11-3-04  
To provide a liquid discharge head, a liquid  
discharge apparatus, a <sup>valve</sup> ~~value~~ protection method of the  
liquid discharge head, and a maintenance device.

5        The liquid discharge apparatus provided with: a  
discharge port for discharging liquid, a liquid flow  
path communicating with the discharge port having a  
bubble generating region for generating bubble, a  
discharge energy generating element for generating  
10    thermal energy for generating the bubble in the liquid  
inside the bubble generating region, and a liquid  
discharge head facing the discharge energy generating  
element spaced apart from the discharge energy  
generating element having a movable member in which an  
15    end portion at an upstream side in a flow direction of  
the liquid inside the liquid flow path is fixed and a  
down stream end thereof is a free end, in which ink is  
discharged from the liquid discharge head and a  
recording is performed by adhering the liquid on a  
20    medium to be recorded, includes: a unit for detecting  
an ink supply state inside the liquid flow path, and a  
unit for controlling or stopping the driving to the  
discharge energy generating element when a judgment is  
made that the ink is not normally supplied based on the  
25    detection result of the ink supply state inside the  
liquid flow path.